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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,135	11/14/2003	Michael D. Bradfield	D-157	9923

7590 01/10/2005

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EXAMINER

NGUYEN, HANH N

ART UNIT PAPER NUMBER

2834

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/714,135	Applicant(s) BRADFIELD ET AL.	
	Examiner Nguyen N Hanh	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "permanent magnets" in claims 6 and 13 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 7-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silvertown in view of Radomski.

Regarding claim 1, Silvertown disclose a dynamoelectric machine comprising: a stator including a stator winding (10) consisting of five phases (Fig. 1), said stator winding inserted in a plurality of slots defining said stator (inherent in an alternator). Silvertown fail to show a rotor rotatable within said stator, a rotor composed of more than two flux carrying segments, each segment having $P/2$ claw poles, wherein P is an even number.

However, Radomski discloses an alternator wherein a rotor (20 in Fig. 1-4) rotatable within said stator, a rotor composed of more than two flux carrying segments (claw pole members 30,32 and 34) , each segment having $P/2$ claw poles, wherein P is an even number (in the instant case $P=12$) for the purpose of increasing alternator output.

Since Silvertown and Radomski are in the same field of endeavor, the purpose disclosed by Radomski would have been recognized in the pertinent art of Silvertown.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Silvertown by using a rotor rotatable within said stator, a rotor composed of more than two flux carrying segments, each segment

having $P/2$ claw poles, wherein P is an even number as taught by Radomski for the purpose of increasing alternator output.

Regarding claim 8, it is noted that all limitations of the claimed invention have been fulfilled by Silvertown and Radomski as in claim 1.

Regarding claims 2 and 9, Silvertown also shows the machine wherein the stator winding is operably connected to a corresponding five-phase rectifier (12).

Regarding claims 3 and 10, Silvertown also shows the machine wherein said five-phase rectifier is a five-phase full-wave rectifier including five diode pairs connected in parallel, each diode pair of said five diode pair including a positive-side diode $d1$ and a negative-side diode $d2$ connected in series.

Regarding claims 4 and 11, Radomski also shows the machine wherein a coil winding (40 and 42) is disposed intermediate each of said more than two flux carrying segments (Fig. 1).

Regarding claims 5 and 12, Radomski also shows the machine wherein each coil winding is energized providing a first magnetic polarity on outbound claw poles defining said rotor and a second polarity opposite said first polarity on claw poles intermediate said outbound claw poles (Col. 4, lines 37-44).

Regarding claims 7 and 14, Silvertown also shows the machine wherein said stator winding consisting of five phases are connected in one of a star connection and a pentagon connection (Fig. 1).

3. Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silvertown in view of Radomski and further in view of Liang et al.

Regarding claims 6 and 13, Silvertown and Radomski disclose the invention except for showing a dynamoelectric machine wherein permanent magnets are disposed between said each segment to enhance at least one of output and efficiency.

However, Liang et al. disclose an alternator wherein permanent magnets are disposed between said each segment to enhance at least one of output and efficiency (Figs. 1, 2 and abstract) for the purpose of increasing alternator output while decreasing magnetic noise.

Since Silvertown, Radomski and Liang et al. are in the same field of endeavor, the purpose disclosed by Liang et al. would have been recognized in the pertinent art of Silvertown and Radomski.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Silvertown and Radomski by disposing permanent magnets between said each segment to enhance at least one of output and efficiency as taught by Liang et al. for the purpose of increasing alternator output while decreasing magnetic noise.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh N Nguyen whose telephone number is (571) 272-2031. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg, can be reached on (571) 272-2044. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

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872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HNN

January 4, 2005


DARREN SCHUBERG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800